

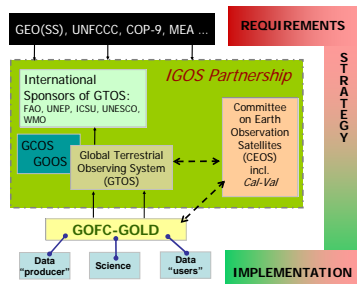


# Global Observation of Forest and Land Cover Dynamics



## GOFC-GOLD overview

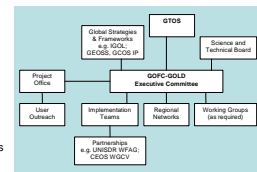
- GOFC-GOLD (Global Observation of Forest and Land Cover Dynamics) is a coordinated international effort to ensure a continuous program of space-based and on-the-ground forest and land cover observations for global monitoring of terrestrial resources and the study of global change.
- A network of participants implementing coordinated research, demonstration and operational projects
- A vision to share data, information and knowledge, leading to informed action and decision support
- A long term process of building an improved match between Observations, Data Products and User Needs



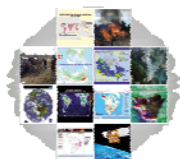
<http://www.fao.org/gtos/gofc-gold>

## Functions and Structure of GOFC-GOLD

- Specifying requirements for products
- Assessing algorithms and data assimilation procedures
- Ensuring the availability of observations
- Harmonization and the development of protocols and standards
- Ensuring that operational products meet accuracy requirements
- Capacity building and the role of regional networks
- Creating GOFC-GOLD products and services
- Providing information to support international assessments
- Advocacy role, especially in relation to the continuity of observations and validation



## Fire Mapping and Monitoring Implementation Team Priorities

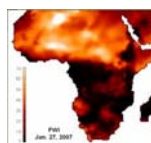


<http://gofc-fire.umd.edu>

- Fire danger rating development
- Near real time daily active fire monitoring
- Geostationary global fire network
- Planning fire monitoring on next generation polar orbiters
- Multi-source fire information integration
- Burned area monitoring
- Systematic product validation
- Near real-time fire emissions modeling
- Web based Distribution Systems
- New technologies: Sensor Web, Fire Characterization
- Outreach to management and policy maker communities

## Examples of GOFC-GOLD Fire contributory projects

### Prototype Early Warning System for Wildland Fire in Africa



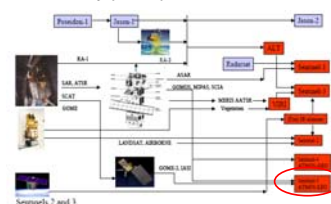
Developed at the GOFC-GOLD Workshop on Requirements for Fire Early Warning Systems in Africa, 14-16 November 2007, in Accra, Ghana  
<http://cwfis.cfs.nrcan.gc.ca/>

### MODIS Rapid Response, Web Fire Mapper and customized services



<http://maps.geog.umd.edu>

## ESA: Global monitoring for Environment and Security (GMES) Sentinel satellites



<http://www.gmes.info>

## Land Cover Implementation Team Priorities



<http://www.gofc-gold.uni-jena.de>

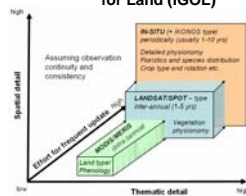
The Land Cover Characteristics and Change theme promotes the use and refinement of land cover data and information products for resource managers, policy makers, and scientists studying the global carbon cycle and biodiversity loss.

GOFC-GOLD has proposed a program of coarse resolution earth observations, fine-scale land cover mapping, and integration with in-situ observations on global scales.

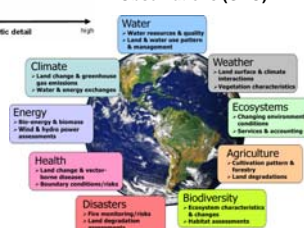
The Land Cover theme is carried out by an implementation team that works with the GOFC-GOLD regional networks to secure acquisition of quality land cover data and interacts with users and regional experts for the development and implementation of mapping standards, data assimilation, and product dissemination.

## Examples of GOFC-GOLD Land Cover contributory projects

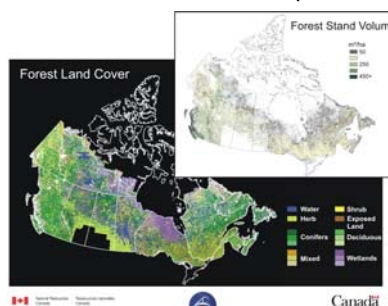
### Integrated Global Observations for Land (IGOL)



### Group on Earth Observations (GEO)



## New coarse and fine-scale land cover products

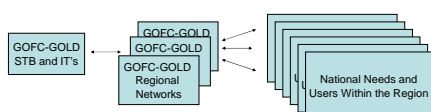


An example of a Landsat-type national product is the Earth Observation for Sustainable Development (EOSD) land cover map of the forested areas of Canada. The inset map depicts forest volume distribution, derived from integrating land cover with climate and Canada forest inventory data. Source: R. Hall and E. Arsenault, Natural Resources Canada, Canadian Forest Service.

The GEO societal benefit areas - The IGOL report assesses the current status observations for each area and provides recommendation for further action to ensure data continuity and product consistency in the respective field.

## The Role of Regional Networks

Providing the interface between the panel and national level data users and needs



- SEARRIN - South East Asia
- OSFAC - Central Africa
- Miombo - Southern Africa
- SAFNET - Southern Africa
- NERIN - Northern Eurasia
- East Asia (in discussion)
- REDLAF - Latin America
- West Africa

Building a sustained global land cover observing system requires international agreement and cooperation on:

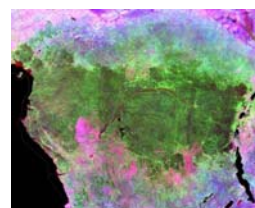
- the continuity of global observations;
- the consistency in mapping and monitoring specifications and land cover assessment approaches;
- sustained engagement and participation in mapping activities, regional networking and capacity building.

## Examples of GOFC-GOLD Regional Network contributory projects

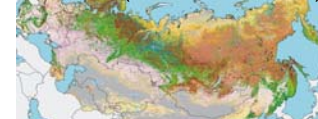
### OSFAC GOFC-GOLD Central Africa Network

Initial assessment of the forest in the Congo Basin

MODIS 500m surface reflectance composite (1999-2002) map of the Congo Basin



### Land cover map for the Northern Eurasia (Source: Joint Research Center)



NERIN and NEESPI are examples for regional networks in the Northern Eurasian region. The primary goal of the Northern Eurasian Regional Information Network (NERIN) is to promote and coordinate the production and provision of Earth System observations for a wide range of user communities in Northern Eurasia.

**NEESPI - Northern Eurasia Earth Science Partnership Initiative**